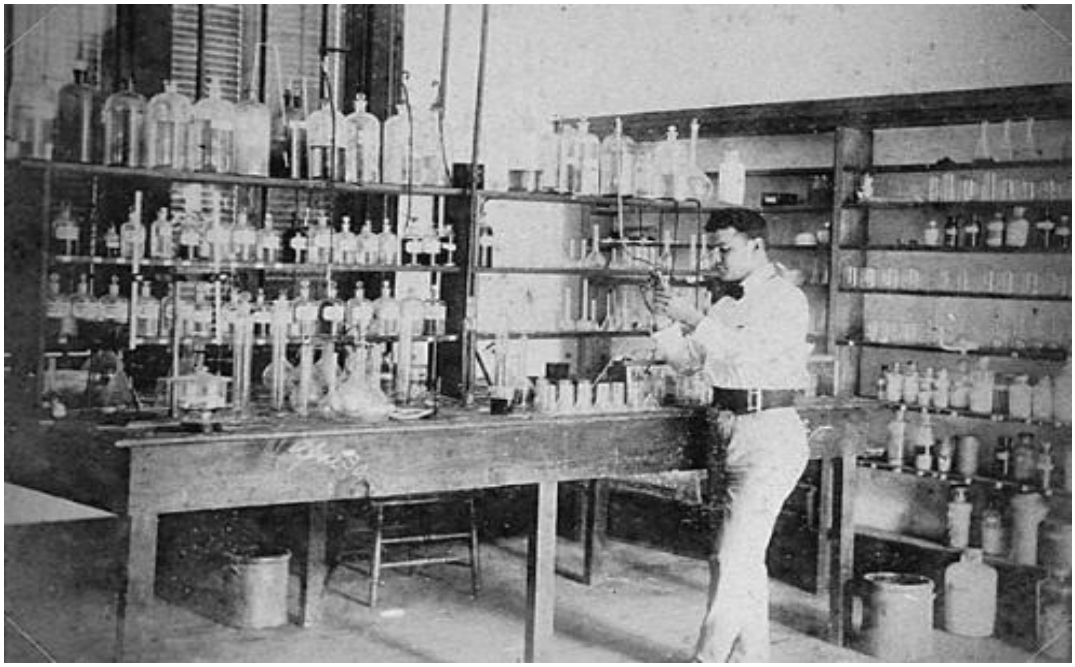
A Photographer's Personal Chemical Laboratory

First off - Let me say that a "personal chemical lab" may not be extensive, nor, expensive. When I began chemical photography, I did not have much, and little money. I collected glass jars with good tight screw top lids. I saved my money from lawn cutting, and other small jobs (even skipping lunch a few times a week at school). This money was to acquire the needed manufactured developers, and fixer. For the "Stop", I used common household Vinegar. And - I READ EVERYTHING I could get my hands on. The Public Library became ***"Autodidact University"*** = (It still is, with the great assistance of the World Wide Web.) *"In This Day and Age - Ignorance is a Choice"*.)

One of the very first books to read is ***"The Darkroom Cookbook" by Steve Anchell***. There are other great books as well that may be bought and [PDF] files very often completely FREE for the down-loading. ((Remember - a "search engine" is YOUR FRIEND.)) You do not have to read everything about Chemistry, keep it simple, take small steps in your learning process. There is No "wrong way" - there IS only Your way. About the only learning equipment that you need is - The Desire To Learn, Improve, and Stay With It.



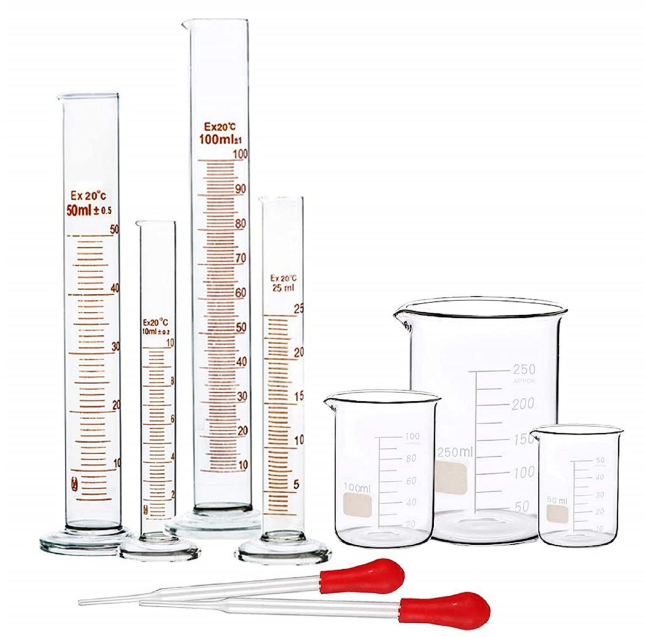
Chemical Equipment -

For the most part glass containers can be found just about anywhere - so save those "pickle jars". (*I do not advise the use of plastic containers.*) For the storage of Mixed developers ready to use, I found that any dark colored glass containment was good. If you can not find those, you can always paint (On the Outside) the clear glass quart and gallon bottles with black paint. (*Yes - I still use "pickle jars" for storage of some raw chemicals, as they are handy, and at no cost.*)

Of course, now, that I have some money, I have assembled a nice collection of usable true chemical glassware. Not extensive nor expensive, however, very concise and usable. I purchased the glassware as I had the need, and thus, spread the cost over a period of about one year. If you are thinking of buying laboratory glassware to not go on the cheap; you want these items to last. So, my advice is to get good medium to thick glassware, particularly that of the Vacuum 1000 ML "Filtering Flask" with pump. Almost a must is a good set of beakers. And get the beakers that have graduated markings. These can be "nested" together - **however - Be sure to use a few paper towels between each when nesting together.**

Other types of glassware are needed for correct measuring. Beakers are for large amounts. For smaller measurements, a set of "Graduated Cylinders" are great for correct liquid measuring. (*The set that I have came with brushes to clean after use.*)

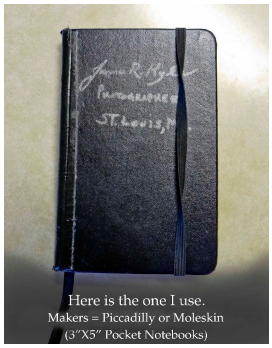
More about "graduated" measuring glassware. With cheap - not only do you GET CHEAP - you will have non-accurate markings. With good quality - you will have good measurements. (Do Keep That In Mind.)



Set of Graduated Cylinders and Beakers

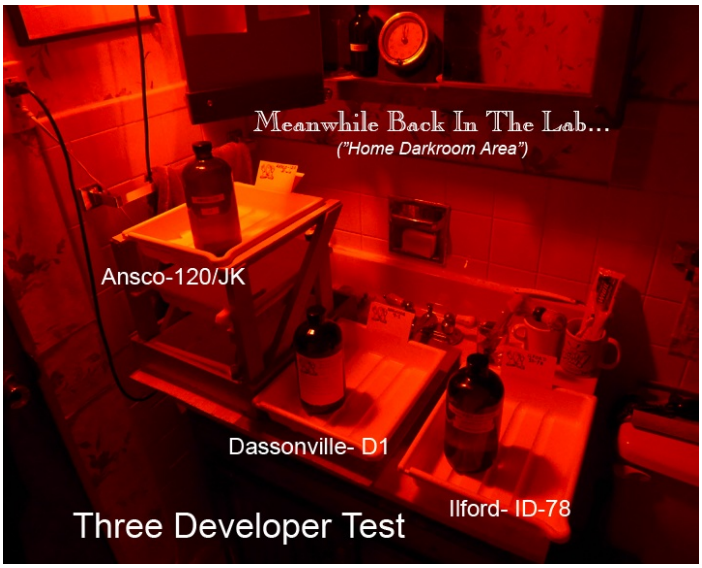
Vacuum Filtering Flask With Vacuum Pump
You WILL need Filter Papers with this.

A Mortar and Pestle - A set of chemical “spoons” - Stirring Rods & Eye Droppers - Small Electronic Scale - (*0r Triple Beam Balance*) - Litmus Papers (*for testing Ph*) - NOTEBOOK (*for writing formulas and changes you will make*) - Pencils, Markers and Pens -



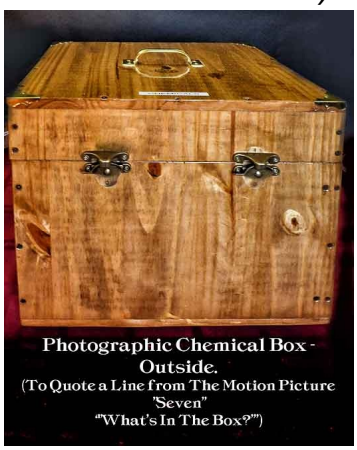
I like “Boston” amber, 16 Ounce bottles for the storage of my Mixed Developers - and other liquids. (*Also smaller sizes as well = 2 - 4 - 8 and 16 Oz - And a few with Eyedroppers.*).

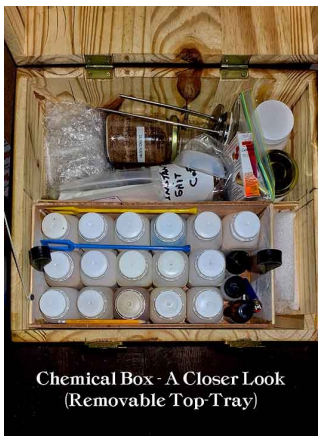
As I said in the beginning = it is a "*personal chemical lab*". Meaning, anything YOU want in and how you set your lab up is good. The herein is only my set-up - Yours will be up to you on where, what, and how you want to set it up. Follow ALL practical SAFETY RULES when using these chemicals (i.e.= Read ALL precautions and instructions) being SAFE and keeping your lab area clean, is primary. If you have, in the past, used the kitchen for your mixing area and somewhat "laboratory" = STOP THAT, NOW. Bacteria is not the only stuff that can cross-contamibate food and preparation areas. Some of the chemicals used in the making of your compounds WILL harm, or kill you if ingested. And - if you have children, put a lock on your chemical storage areas. Having a designated darkroom is the best situation. However - not always able for some to do. If you live alone - like I do - the situation is different.



(*Here is my Personal Prep-Area* *Here is my Personal Darkroom Area*)

Most of what you see in the above photos can be packed into a Chemical Traveling Box. And the Three Trays, with five bottles of prepared chemicals, can go into another traveling box. However - When these boxes are closed = all is out of sight to others. If you have children, locks may be put on the boxes to prevent *"accidental openings" (or intentional noisiness.)*





List of Chemicals and Apprentices

1 - Can of Kodak Dektol (Dry)

1 - Bottle of Ethol (LPD) (Wet)

Kodak Indicator STOP (Wet)

Kodak (or ILFORD) Fixer (Wet)

= Raw Chemicals, Dry =

Instant Coffee Crystals

Sodium Carbonate (washing soda)

Ascorbic Acid - (Vitamin "C")

Copper Sulfate

Metol

Benzotriazole

Phenidone

Sodium Acetate

Sodium Hydroxide

Sodium Metabisulfite

Amidol

Sodium Sulfite Anhydrous

Potassium Bromide

Potassium Ferricyanide

10 Oz. Silver Nitrate

16 Oz. - Grain Alcohol 98%

16 Oz. Isopropyl Alcohol 91%

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3 - Pre-Mixed Developers

A Few - Ready Measured dry powders

1 - 1000 ML Vacuum Filtering Flash 7 Pump

1 - 16 Oz. Measuring Graduate

1 - 32 Oz. Measuring Graduate

1 - 100 ml Graduate Cylinder

1 - 5 ml Graduate Cylinders

1 - "Nested" Beaker Set (15 to 1000 ML)

3 - Funnels (Plastic)

1 - 1 to 10 ml Syringe Set (With Blunt Needle)

1 - Mortar & Pestle

2 - Thermometers

1 - Kodak Mechanical Timer

Filter Papers

1 - Small Digital Weight Scale

4 - Each - Empty Bottles (3- 16 Oz. / 1-32 Oz.)

2 - Sponges

1 - Roll of frosted tape

1 - Personal Chemical Notebook

4 - Pencils

1 - Eraser

2 - Ball-Point Pens

"The Darkroom Cookbook" 3rd Edition

Buying chemicals can be a bit of a shore, and sometimes aggravating. I purchase most of my photo-chemicals from "***Photographer's Formulary***":

https://stores.photoformulary.com/bulk-chemicals/

For simple "Caffenol" Formula chemicals - You can find them at local health stores, swimming pool supply stores, and supermarkets. And - of course - look online as well.

In other [PDF] articles I have compiled more information about what each chemical does, and or, reacts to in their way to produce images in the development process. I encourage the reader, here, to have a look-see at those files as well to get an understanding of what you are about to do. The "Darkroom Cookbook" is one that I refer to again and again. However - there are older books from the past that would to be good to read.

C.E. Kenneth Mees book "The Fundamentals of Photography" is one really well written book for anyone to understand. (*This can be downloaded as a [PDF] file.*)

"YouTube" Videos are very good - because - there are many people who can read, but for some reason ,can not retain the information. By watching how a procedure is done they can retain more information by that method. I really like watching vids, as well as reading - With the "YouTube" experience, I too feel that I retain more of the presented information - even though, I can remember about 85% of what I read, hear, see, taste, and smell. (*I suppose that some people are more gifted than I, and thus, can do better.*)

Anywhat!! --

Your personal darkroom and personal chemistry lab will be up to you. And in that - You must feel very comfortable with working in it. And it IS work.. Even if it will not feel like "work". You should feel a internal joy in the fact that you can create your own personal chemical substances, and do it with a good amount of safety. SAFETY FIRST, and the correct handling of the substances is the key to great success with your experimental endeavors.

Thank you for the reading of this article.

James R. Kyle, Photographer - Saint Louis, Missouri, U.S. of A.